

RATIONALISM IN MEDICINE

THORNTON

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RATIONALISM.

THE INTERNAL TREATMENT OF DISEASES BY CHEMICALS
OF LIKE NATURE TO THOSE THAT ARE
FOUND WITHIN THE BODY IN A
HEALTHY STATE.

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RATIONALISM
IN
MEDICAL TREATMENT
OR
THE RESTORATION OF CHEMISM
THE SYSTEM OF THE FUTURE

BY
WILLIAM THORNTON

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TO
THOSE WHO *THINK* AND *REASON*,
THIS WORK IS MOST RESPECTFULLY
DEDICATED
BY THE AUTHOR.

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P R E F A C E.

SINCE the atmosphere of invective has so far cleared that breathing becomes comparatively free, in justice to myself and the general public, I venture to publish this book; that through its pages a light, not hitherto quite clear, may be made so; and that by reason, I may be more intelligibly understood.

It is impossible to put in so small a space more than a summary of that which it would require a larger volume to elaborate.

My intention is not to appear as though making an attack on any method or school, especially the Massachusetts Medical Society, a society for which I hold a profound regard, since it is an institution that always tolerated scientific achievements.

Nor do I wish to intimate that the spirit of progress is not already in the ranks of the profession, but will say that it lacks, at present, certain material for its further advancement.

I do not expect to appeal favorably to those of the medical profession who are not of a self-sacrificing nature in their efforts to advance science, but are satisfied with having gained a reputation in methods mythical and otherwise, now extant.

Nor will they care to start again with a new system or departure, when they are already satisfied with the old ones, notwithstanding that they are irrational, and, in the main radically wrong.

No books can aid in the development of a system of Rationalism, in medical treatment, because it is an unexplored field, and the man who explores an unknown region is the better judge of what he discovers there.

Therefore, being the authority in this new

field of research, I now begin to open this vista through which others may see.

Having labored hard and long for the discoveries I have made, who will deny me the right to make the best use of them?

Surely no one with the desire for more light!

WM. THORNTON.

NOTE.

The extracts under the head of "Life" Material, and "Death," are from a chapter in my forthcoming book, entitled, "The Philosophy of Medicine or Rationalism, on the basis of the Restoration of Chemism."

THE RATIONAL SYSTEM.

THE chief difficulty of writing this work so that it may be understood by the laity, as a precursor of what is to follow, consists in being obliged to dispense with many technical terms, which would render much assistance, as by their use a fuller explanation of this system which I am promulgating could be made.

The public, ever thirsting for that knowledge which will render it bodily service, should understand that it is desired to make Rational some part of that which is done by the profession in the treatment of disease, as more than two thirds of the recipes now used by practitioners of the various schools are useless and Empirical.



Upon examining minutely the history of medicine from Hippocrates to the present time, we find nothing which will enable us to reduce medical practice to a system or a science, but what has been formulated upon an Empirical basis.

Education consists in the knowledge of differences, and if I point out the great difference between Empiricism and Rationalism in medical treatment, will it not be said that a service is rendered to mankind by not allowing Empiricism to fret and to tease it even unto "death?"

Well might Sir William Jenner declare that "the science of medicine is a barbarous jargon, every dose of medicine is a blind experiment."

When Majendie assumed the Professor's chair of medicine at the College of France, he thus addressed the astonished students: "Gentlemen, medicine is a humbug; who

knows anything about medicine? I tell you frankly I don't; Nature does a good deal, doctors do very little — when they don't do harm."

When the question of absolute knowledge arises, has the concept ever been generalized as to how much a man can know?

He that possesses the greatest knowledge possesses but a smattering.

At different times, while contemplating my surroundings within the walls of Guy's Hospital, London, and during a long course of study in the different institutions of medicine on the continent of Europe, I thought that sufficient was not being accomplished by medicine and chemistry, and too much by surgical operation — too much, not in the sense really required.

I constantly heard, and hear to-day, of the "science of medicine," but have yet to learn how Empiricism can become a science. The

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nearest we can get to the fact in the present state of knowledge is to call it the "art of medicine;" and I concluded that my aim should be to build up a science, and an exact science, as by a Rational System we can arrive at mathematical precision, which is essential for the production of an exact science.

This was a positive standpoint considering the eminent ability there was about me, and I knew I should be retarded in my researches and the development of these ideas, and so resolved to leave England and visit America, where an advancement of my theories could be made.

From the commencement of my study of medicine, and before that time, I had a natural love for chemistry, and after beginning the study of pathology I developed an equal love which has rendered me the fullest complement of service.

So, by instituting a series of experiments in medical and pathological chemistry, I have been enabled to formulate for diseases which the profession did not treat successfully, for I have heard them say many times when baffled by diseases that "science has done its work," because they are limited in the knowledge of the chemistry of medicine.

The following is my reasoning for Rationalism:

A brick building must be built of bricks and mortar. It is just as absurd to try to build a brick building without bricks and mortar, as it is to try to build up a human body without the elements which compose it.

Now, how can we repair a man if we do not use that which should naturally be found in him? and if we get all that is, or should be, in him and nothing else, we get him in his normal condition again; and as ordinary medicine does not do this, it admitted of an

inquiry why? and this inquiry has proved that the profession is trying to reproduce him by what is not found in him ; in short, attempting to build a brick building by not using bricks and mortar.

As a bad tree does not yield good fruit, neither can a good tree yield bad fruit ; and the reason the good tree yields good fruit is because its cultivator has found what food is required in order that it might yield good fruit ; in finding which it must be conceded that he has coaxed from Dame Nature all that he had power to coax to aid him.

Tainted animal matter is unfit food for man, it not being chemically pure, therefore we could not restore the chemism of the body by it ; it follows, then, that we must have healthy, wholesome matter as food.

A compatible atmosphere is essential to the well-being of man, since he cannot be sustained by it if it be not pure, and its impurity consists in the permeation through it of foreign gases and exhalations from effluvia

and other substances, which are not found in the body of man at any time ; and as the air which he breathes when pure contains elements of like nature to some of those in his body, it follows that the foreign elements in the atmosphere would "kill" him, as any poison does.

In addition to the compatibility of the atmosphere, water must be pure, for anything foreign held in solution may be as likely to "kill."

Eliminate the foreign elements from air, water, animal and vegetable substances, and we have the restoration of their chemism, which is Rationalism in its perfection.

Eliminate the impurities from all that is essential to the production of man, and we have Rationalism in the practice of medicine.

Having had extensive opportunities in physiological research, and experience in chemical pathology, I have found that which

18 TREATMENT OF MALIGNANT GROWTHS.

gives rise, at different times during life, to the production of malignant growths, and also to other diseases, and have had the satisfaction of neutralizing and eliminating it from the body, thus enabling me to remove a diathesis, and to treat with success these diseases.

A diathesis is a proneness to disease which is latent in the body and only requires an incentive for its precipitation.

A system that can arrest a malignant disease ought to prevent its appearance altogether when it is hereditary.

Hereditary cancer is the most extreme representation of a disorganizing process which shows the body is polarizing the units of its composition in the direction of "death."

Incompatibles will polarize in the direction of "death."

Compatibles will polarize in the direction of "life."

Heterogeneous changes are disorganizing processes which alter the substance of an

organ throughout. So long as the organs remain homogeneous,—or of like nature throughout,—they respond to normal integrity, as the Creator ordained in the first place.

I am conscious of the difficulty there is and will be, in the belief that a malignant disease can be cured by any means internally administered.

For example, if twelve malignant diseases were selected by men of eminent ability for internal treatment by this Rational system, and one of the twelve patients was to “die,” while the eleven others were cured, the belief in the incurability of these diseases is such that the eminent jury would rather pronounce the one that had “died” to be the only one that had malignant disease, and that in the eleven other cases there had been a mistake in the diagnosis.

What are we to understand by this?

Should we be justified in concluding that

these men knew what a malignant disease was?

Be that as it may, what answer?

Every intelligent physician will tell you that medicine is in a very unsatisfactory state, because it accomplishes so little, and compels him to depend so much on surgical interference.

A successful surgical operation is all very well in its way, but to prevent a surgical operation — there being better means at our disposal — would render more service to the sufferer than the removal of any part of his body could possibly do.¹ And let it be distinctly understood that ultimately it is my intention to place at the disposal of the profession the means above referred to.

We have one class of “medicine men” recommending roots, herbs, and barks.

¹ This does not refer to surgical operations for the removal of crushed or mutilated limbs.

Now, who with Rational knowledge would think of treating the body with any of these things? Do we find them, or anything like them, in the human body at any time in its healthy state? If we do not, then why torture a poor sufferer by obliging him to throw out of his body that which should never have been administered.

The body is not composed of drugs, but of chemicals. If we could prove it to be a composition of drugs, then drugs should be given. But we have proved it to be a composition of chemicals; therefore we must give chemicals and nothing else.

The body is chemical matter clothed in flesh, and without chemicals there could be no such thing as flesh.

But a man cannot live on crude chemicals, such as potash, lime, soda, etc.

Yet these things do we find, together with many others, by reducing the body to ashes, but in no instance do we find, on analysis of

the ashes of a burnt human body, anything but that which is found in it before being burned.

These chemicals are so persistent in the "living" body, that not even in "death" are they removed: but only during the ordinary course of time.

A process of eliminative chemistry directed me to the conclusion that nothing should enter the body but chemicals of like composition to itself, as it cannot respond to integrity without every one of its elements being present. If there are one or more absent,¹ there must arise some evidence of this, which takes the form of disease. And all diseases not of miasmatic or germ origin are due to the reduction of the normal quantity of these elements, and I am not sure that the reduction of some of them do not render the

¹ In using the words "absent" and "lacking" when referring to the elements of composition I wish it to be understood that parts of these elements are absent or lacking.

body fit soil for the habitation even of parasites.

Now sulphur is the specific application for the itch, destroying the itch parasite. Sulphur is a compatible, and is found in the body in a healthy state.

If there was sufficient sulphur in the body at the time, I question the appearance of the itch, and the presence of the itch is evidence of the want of the sulphur.

The human body is also, in its aggregate, a colonization of cells in which reside the evidence of their different functions.

The gray cells of the brain generate in their interior the energy necessary for transmission from the brain through tubules or conductors in connection with each individual cell, to the different parts of the body, so that we may say that, under the influence of the will, all that is necessary is transmitted through them. If there be any interruption in them to the transmission of this energy generated, their substance will be found to

have undergone structural change, which change is in the form of degeneration.

Some people suffer from softening, others from hardening, of the brain, in its different parts; and some suffer from the same condition of hardening and of softening of the spinal cord, which is chiefly formed, together with other substances, by an aggregation of these tubes or conductors. Whenever there is anything essential to their normal consistency removed, we have a reason for interruption.

Medicine is here at fault, and why? Because it is said that these parts cannot be reached, physical and chemical changes have taken place in them, and which no remedies yet discovered can overcome.

How do we explain these changes?

A chemical change is that which takes place internal to the molecules, and alters the identity of the matter acted upon. A physical change is that which takes place external to the molecules, and does not alter

the identity of the matter acted upon, so that the physical difference in substances depends upon the relative position of the atom. Anything capable of producing a chemical change in any physical substance must of necessity disturb the relative position of the atom, this occurs in the spine and part of the brain, thus arresting the energy generated. These changes take place in diseases of other parts of the body.

Restored chemism means the re-establishment of the normal relative position of the atom which brings about the chemical and physical integrity of the body, as the human system can be made to respond to chemical action, if understood, as easily as the keyboard of an instrument responds to the touch of the musician.

If we make an analysis of the waste or worn-out matter of the nervous system, we should find it to contain a large quantity of phosphoric acid, which has been derived from

phosphorus in the different kinds of food containing it, having undergone oxidation. How to get phosphorus into the nerve-centres by artificial means not derived from the food has occupied great attention.

The object is to protect it from chemical change before reaching the centres of the nerves.

Now, in order to do this, we require a menstruum, or vehicle of conveyance, to prevent it from becoming phosphoric acid before reaching the centres, for it would then be like adding waste to waste.

It has been said this cannot be done; and further, if it can be done, we have control over diseases that are brought about by a reduction of the normal amount of this element.

What is meant, doubtless, when it is asserted by men of "eminent" ability, that some diseases of the nerves are considered "incurable" is because of the want of phosphorus in its normal proportion.

If this Rational system can introduce phosphorus unoxidized into the nerve-centres, it must be granted on all sides that we have control over the category of those diseases considered beyond reach and knowledge.

When microscopically examined, the cells of the skin that are diseased will evidence perversion in structure. We find, during improvement of them, a response in the gradual return of each particular cell to its normal standard shape again.

The worst forms of eczema, or salt rheum, can be entirely removed without using anything for their removal but what is found in the body in a healthy state.

This may be accomplished in a way the very opposite to that which the profession adopt,¹ that is, by not using an application

¹ Some dermatologists believe eczema to be a constitutional disease, but have no means by which to reach it, and therefore are obliged to depend altogether on applications.

of any kind, but constitutional treatment only; for eczema is but the visible expression of internal disorder.

Many of the remedies used as applications in the form of lotions, ointments, etc., if analyzed, would be found to contain that which would injure, if it did not kill, the patient, if taken internally.

It is fortunate that patients have a reserve power to tolerate monstrous influences, or they would die sooner than they do from the foreign elements prescribed by medical practitioners of to-day.

This they will admit themselves, when questioned.

I can only understand the efficacy of an incompatible to consist in engaging the body in its expulsion after being administered; and if the body's attention to expel it be greater than the power of the disease to engage it, the disease is lost sight of in the effort until the body recovers itself again.

Doubtless the saying that "what is one man's meat is another man's poison" came from the uncertain action of incompatibles, it not being known where they would strike, which has made so many people doubt the efficacy of medicine altogether.

The body liberates energy pent up in matter of like nature to itself and appropriates it, but energy not of like nature can hardly be expected to be thus appropriated.

During the process of the development of a child in its mother's womb, would any intelligent or scientific man expect to aid that development by giving to its mother any foreign elements?

The first degree of departure from the normal condition is the first degree of disorganization, and as disorganization ends in "death" it cannot be said that the part thus departing can have the same quantity of "life" that the healthy part has; and as vitality will

30 TOLERATION OF CHEMICAL ACTION.

resist chemical action, the healthy tissues must resist chemical action of compatibles. Hence the continuation of physical and chemical integrity.¹

The proof that the body will tolerate normal chemical action, may be found in the fact that, when a man addicted to drinking ceases to resist the normal chemical action of the alcohol, he "dies," because of the gradual reduction of his vitality, the abnormal chemical action overcoming the vitality to resist it.

Now the remedies that are used by the most eminent of practitioners are nearly all incompatibles, a few of which are given below in their crude state. To present the entire list would require very many more pages.

¹ The body cannot resist the chemical action of incompatibles; if it could, "death" would never supervene after their administration.

DULCAMARA.
BISMUTH.
KAMELA.
CORIANDRUM.
OPIUM.
ALOES.
LEAD.
MYRRH.
CAMPHOR.
ASSAFÆTIDA.
HEMLOCK.
UVA URSI.
JUNIPER.
MERCURY.
COPPER.
ARSENIC.
SILVER.
ANTIMONY.
TURPENTINE.
STRAMONIUM.
CUBEBS.
BELLADONNA.
TARAXACUM.
CATECHU.
HÆMATOXYLON.
SQUILLS.
INDIAN HEMP.
SANTONICA.
RHUBARB.
CANTHARIDES.
SAVINE.
HELLEBORE.

GALLS.
HYOSCYAMUS.
SIMARUBA.
TORMENTILLA.
SCAMMONY.
GENTIAN.
CARDAMOM.
ELATERIUM.
COLCHICUM.
BUCHU.
ERGOT.
SANTONIN.
ARNICA.
GUAIAACUM.
BENZOIN.
LOBELIA.
COLOCYNTH.
SENNA.
KINO.
COPAIBA.
RUTA.
SENEGA.
VERATRUM.
DOG ROSE.
GAMBOGE.
DIGITALIS.
VALERIAN.
QUININE.
ROSEMARY.
QUASSIA.
STYRAS.
CHIRETTA.

SAGAPENUM.	PRUSSIC ACID.
SERPENTARIA.	COLUMBA.
CROTON OIL.	JALAP.
IODOFORM.	TOLU.
PODOPHYLLIN.	CANELLA.
KAJEPUT.	IPECACUANHA.
MORPHINE.	ACONITE.
TRAGACANTHA.	CERIUM.
CASCARILLA.	NUX VOMICA.
TOXICODENDRUM.	MUCUNA.
PETROLEUM.	KRAMERIA.

If such materials as these are found in the body, they are compatibles; if not, they must be incompatibles and should never be used, as we cannot bring about normal action by foreign elements.

Everything given in the form of medicine should promote organization. All foreign matter will retard this process, and must of necessity account for many of the diseases that arise.

Food contains what the body requires, which the different cells elaborate into their interior. The selective office of these cells can never be at fault in the process of nutri-

tion if they have brought to them that matter only which should be chemically appropriated.

Degenerative changes are caused by the cells changing in structure, from elaborating into their interior foreign matter.

When normal transformation goes on, we have physiological integrity.

“This is Rationalism.”

Therapeutics is the knowledge of the curative treatment of diseases, which should be well understood by every practitioner of medicine.

His knowledge may be economized by having pointed out that which he should know, by which he would be enabled to throw aside two thirds of the remedies now used, thus rendering great service to humanity as he would then prescribe such things only as the body, when diseased, requires.

The amount demanded from the student of medicine covers the greater part of his time in obliging him to embrace a knowledge that is entirely useless.

This mental expenditure should be economized by eliminating from the category of studies that which it is not necessary to learn.

The student should be taught what Nature requires in order to combat successfully the many diseases he ultimately comes in contact with.

What is meant by Nature's aid?

"Nature's aid" to the physician, in reproducing that which is required.

When we are aiding her, we must look to her for what she first selected, and not in foreign directions.

If, during the healing process in a wound, decomposition takes place, we have abnormal chemism, the products of which, becoming absorbed, produce blood poisoning and often "death." If this process remains normal we have a successful surgical operation. By this it will be seen that the body will not tolerate anything incompatible with it, as Nature's means are always Rational.

A physician is obliged to wait for the development of a disease to a certain stage before he can approximate to a knowledge of what that disease is. This fact is particularly noticeable when judgment is necessary upon something in the form of a swelling or hardening often appearing in the female breast and other parts.

The man with a natural love for surgery will suggest immediate removal with the knife, when one more interested in the chemistry of medicine would hesitate before coming to such a hasty conclusion. Now the question is, whether, from an examination, we can pronounce them to be malignant; if so, the surgeon is justified in his conclusion, if there be no better means known for their removal.

If they admit of a doubt as to their nature, the chemistry of medicine should be called into requisition, especially if it has accomplished anything in the removal of growths, although some surgeons look upon the treat-

ment of a tumor by medicine in the same light as one would on taking medicine for the removal of a limb, because of the tissues abounding in it being of somewhat like nature to the normal.

Two thirds of the diseases of humanity are produced, as I have discovered, by abnormal ferments; and so long as the normal ferments of the body respond to chemism, none of these diseases can possibly arise.

The gastric, the pancreatic, and the intestinal juices are ferments; these becoming abnormal must produce the different forms of indigestion, constipation, etc.

Re-establish the normal, physiological chemistry of digestion and assimilation with what it should contain, and we cannot have such diseases. Anything interfering with this process must give rise to the worst forms of disease, and I know no more fertile source for interference than the introduction of foreign elements (which is the basis of common

practice) or the reduction of the normal ones that should be present.

What is Bright's disease of the kidneys, and in what does its cure consist?

The first evidence of the appearance of Bright's disease is manifested by a change in the cells of the tubes of the kidneys, which change, together with an escape of albumen, is revealed microscopically from an examination of the sediment of the urine.

If the man lives that can restore the surface of the tubes through which the urine passes, he can cure Bright's disease. This could not be done without restoring the whole substance of the kidneys to the normal condition again.

If we take a man with this disease, should it not be looked upon as Rational to renovate or restore the kidneys by re-establishing the selective office of their cells and by introducing the same matter of supply in a concentrated form that sustained them when in a healthy state.

The cells of the tubes are of like nature to the skin, in the sense of being epithelial cells, but of a different type.

The remedy for eczema, which renovates the skin and reproduces its cells, will certainly go a long way towards reproducing the linings of the tubes of the kidneys.

For the relief of pain the profession almost entirely depend upon the use of opium, which is an incompatible. The severest pains and suffering — such as occur in rheumatism and neuralgia — can be removed without the use of opium in any form, but by means of compatibles.

If we have a specific formula for any particular disease, we can produce the same result every time we use it for that disease.

As we have seen, the reason why this is not the case in the existing methods of practice is because no uniform action or result can be depended upon from the use of incompatibles.

From the moment of "birth" to the time of "death" a slow process of combustion goes on, which is kept up by the food, etc.

If this combustion be accelerated, it is evidenced by molecular excitation or heat; 98° of which is required for the normal condition.

By an analysis of food we come to a knowledge of what the natural forces of the body are derived from, so that we can supply them when they are deficient and thereby reproduce the forces that "life" controls.

A perfectly formed human body is a symmetrical aggregation of cells which manifests the fact that there must be some architectural designer outside of the material of the universe, that makes himself manifest here and there in aiding material perfection.

Again, this is evidenced in the accretion of particles to the formation of crystals.

This influence, if exerted upon all parts in the same way, must produce like units

throughout, which allows them, on investigation, to bear evidence of perfection, even when microscopically revealed.

Not until we have learned Nature's laws and accepted her methods, can we have an exact science of medicine.

“LIFE,” MATERIAL, AND “DEATH.”

That which allows organic matter to differ from inorganic cannot be material itself, because it so dominates and seems to demand in all instances harmonious action.

Why there should be “life” acting in and through these chemical substances is sufficient reason to believe in its independent existence; because, if dependent on a certain compound for its appearance, we should expect to find at all times, wherever it appears, a special aggregation of chemicals.

This is not the case. Heterogeneous is the matter, and homogeneous must be the mysterious agency acting through the matter, or like nature throughout influencing unlike nature throughout.

It is utterly impossible, as is well known,

for a compound to yield an element not already in the compound, therefore, homogeneity cannot be a product of heterogeneity.

Yet these agencies act harmoniously together; the one in the form of physical and chemical force belonging to the matter, the other distinct and independent of it. It is said there is no positive evidence yet that "life" is not a product of matter.

The proof that one does not evolve the other can be instanced during gestation.

The evidence in this process being that the one presides over and controls the development of the other in the form of an impression, which is transmitted by the sexes to the matter of the coitus.

This impression contains the image of the specie, which takes the full period of gestation for its production.¹

¹ During this impression, if the male power predominate, we have male issue, it being the positive influence; if the female power predominate, we have female issue

During this process we have an apparent inseparable connection between matter and "life," which does not prove them to be independent of each other. But from the moment of "birth" there comes more distinct evidence of independent existence, since that which is born "lives" by the impression within and through it.

If the material which this impression permeates did not change, we could "live" on forever. But it is constantly changing and becoming less qualified.

"Life," although beyond the sphere of the present methods of experimentation, is positively manifested; and about which all we can know is derived from the way it controls the cellular activity of our bodies.

What is "life?"

or negative influence; and if we have positive and negative equal to the requirement, which is very rarely the case, we have a double sex issue. This influence is always involuntary. Were this power voluntary there would be no difficulty in the production of poets, painters, sculptors, etc., at will. * * *



“Life” is an imponderable agency which manifests itself as a controlling power over the cellular activity of all animal and vegetable matter.

The cells of the body are composed of atoms and molecules, and, so far as their material composition goes, are under the influence of physical and chemical agencies, on the harmonious action of which “life” depends for its temporal presence in the body.

Science has proved the indestructibility of matter, every particle of which can be accounted for. Therefore it is not unreasonable to think that “life” should be accounted for when liberated. If material have no end, why not the “life” continue, immortal? “Life” cannot have weight, and if without weight it cannot be material, as we know nothing of weight only through material; and if it is not material it is incapable of change, as we know nothing of change only through material; and if it is incapable of change it is eternally existent in the same

state, and therefore, as an everlasting principle, is analogous to the basis of creation.

All physicists and naturalists speak of "living matter."

I say matter does not "live," therefore there is no such thing as "Death."

So long as the play of the agencies essential to chemical and physical integrity shall continue, so long shall "life" permeate it. But when these agencies cease to act harmoniously, then we have a reason for a disorganizing process, which, if it continue, will liberate "life" and give the appearance only of "death."

* * * Science does not admit that material things can be created.

That a non-material principle acts through chemical bodies makes easier the belief in creation.

* * * The opposition to my belief in spontaneous generation is founded upon the fact that we cannot drive beyond the sphere of experimentation such "animalculæ," "that

many millions of them have sufficient territory for full play on the point of a common needle."

They are so subtle, as far as their bodies go, that they cannot be driven beyond this sphere. And as we cannot drive ether beyond this sphere, how can we expect to drive animalculæ, whose bodies are almost as subtle as ether itself.

How much more subtle must the "life" be, acting through their material, showing the impossibility to exclude or bring it within the means of experiment.

Therefore it is impossible to prove or disprove spontaneous generation.

* * * We can account for progressive differentiation in "living species" by the one controlling principle manifested alike through all the processes of morphological changes.

* * * It is utterly impossible for me to conceive of the annihilation of consciousness.

